Department of Animal Science
M. J. P. R. U. Bareilly.

	Dr.	**Yogendra**	**Prasad**		
Designation	**PROFESSOR**				
Department	**Department of Animal Science**				
Address **Campus** **Residence**	**MJP Rohilkhand University, Bareilly (U.P.)** **A-4, T-4 Professor colony, University campus, MJP Rohilkhand University, Bareilly (UP) 243006**				
Phone No. **Fax**	**0581 – 2520083 (O)** **0581 – 2522994 (R)** **+919456871203 (M)** **0581 2523383 (Fax –Office AS)**				
E-mail	**yogendraps_2004@yahoo.co.in**				
Web-Page	**mjpru.ac.in**				
Education	**Qualification (M. Sc. Onwards)**				
Subject	**Institution**			**Year**	**Details**
M. Sc. Zool.	**Kumaun University, Nainital**			**1987**	**Zool. (Fish and Fisheries)**
Ph. D. Limnology	**Barakatullha University, Bhopal**			**1992**	**Studies on Bacterial Fish Diseases, their prophylactic and therapeutic measures**

Carrier Profile

Sl. No	**Institution**	**Designation**	**Year**

i. **PROFESSOR** in the Department of Animal Science, Faculty of Applied Sciences, Rohilkhand University, Bareilly, 2011 – continue
ii. **Associate professor** in the Department of Animal Science, Faculty of Applied Sciences, Rohilkhand University, Bareilly, 2008 – 2011.
iii. **Reader** in the Department of Animal Science, Faculty of Applied Sciences, Rohilkhand University, Bareilly , 2005 – 2008.
iv. **Senior Lecturer** in the Department of Animal Science, Faculty of Applied Sciences, Rohilkhand University, Bareilly, 2000 - 2005
v. **Lecturer** in the Department of Animal Science, Faculty of Applied Sciences, Rohilkhand University, Bareilly, 1996 – 2000.
vi. **Research Scientist** in the Department of Limnology, Barkatullah University, Bhopal, under DBT sponsored Project form 1995 – 1996.
vii. **Research Associate** in the Department of Limnology Barkatullah University, Bhopal under ICAR Project from 1992-1995.
viii. **Junior Research Fellow** in the Department of Limnology Barkatullah University, Bhopal under ICAR Project from 1988-1992.

About Aquatic Biotechnology and Fish Pathology Laboratory

This lab is exclusively devoted and dedicated on **isolation and molecular characterization of virulent bacteriophages**. Significant research contributions made in his area of research are: Isolation of PHAGES against the potent bacterial fish pathogens infecting freshwater fishes of Sub Himalayan region has been made for the first time in India and examined for plausible remedial measures to eradicate such pathogens. The bacterial pathogens viz. *Pseudomonas fluorescens* and *Flavobacterium columnare* (Prasad, 2009) have been subjected to various antibiotics to know the applicability of such antibiotics for their eradication. They conferred resistance against commonly used antibiotics (Prasad *et al*., 2005). Therefore, to overcome the problem of drug resistant, isolation and characterization of Lytic Bacteriophages, members of DNA virus, *Podovariedae* of *P. fluorescens* and *F. columnare* (Prasad *et al*., 2010, 2011) have been made. They exhibited shortest eclipse and latent period and maximum burst size and have been proven of profound efficacious against targeted bacterium and would be suitable candidate species to combat with the maladies of these pathogens in fish hatchery and aquaculture. Besides, *in vitro* cell culture of Fish macrophages, Nutrophils and Lymphocytes (Verma and Prasad, 2007) for the evaluation of humoral and cell mediated immune response (Kumar *et al*., 2007; Verma *et al*., 2007) immunohistopahology (Verma and Prasad, 2008) and Histopathological (Verma et al., 2006, Kumar, 2007), oxidative stress - SOD, LPO, Catalage (Kumar *et al*., 2009), immunecompetence evaluation (Jaiswal *et al*., 2009; Gupta *et al*., 2010; Jaiswal *et al*., 2012) through serum lysozyme and proteins have important parameters of evaluation. Purification characterization and use of phage induced endolysin as therapeutic agent against *Staphylococcus aureus* (Gupta and Prasad, 2011) of human origin has also been made.

Greatest target of the team is on Genomic and Kinetic evaluation of lytic phages to develop PHAGE THERAY in aquaculture.

This lab is having all facilities to facilitate the problem of aquatic biotechnology as equipped with BOD, Laminar Airflow (H&V), Lyophilizer, Refrigerated high speed centrifuge, ELISA, RT PCR, Millipore water purifier, nanodrop spectrophotometer, Inverted microscope, Gel Doc system, Electrophoresis, Deep freezer etc.

Field of Interest

(i) Phage therapy in Aquaculture

(ii) Immunomodulation and Immunocompetence aspects of fish

Teaching Experience:

(i) Limnology - Fish Biology and Aquaculture - 1988 – 1996

(ii) Animal Science - Microbiology, 1996 – cont.

Fisheries and Aquaculture,

Genetics and Environmental Biol.

Honours and Awards

Publications (Last ten years)

J. **Books**

Year	Title	Publisher	Co-author
2012	**Bacterial Fish Diseases (A Practical Approach)**	**Under Pub. NPH, Delhi**	**-**

(II) In Indexed / Peer reviewed Journals (200 onwards): RG factor: 12.56

Total Publications = 50 h factor: 0 7

sSl. No.	Year	Title	Journal	Co-author
1	2005	Efficacy of selected antibiotics and leaves extract of neem (*Azadirchta indica), on Flavobacterium columnare* isolated from symptomatic cat fish (*Clarias batrachus*).	Biochem. Cell. Arch. 5(2): 153 – 160. ISSN	Verma, V and Singh, B R
2	2006	Histo-pathological investigation on *Clarias batrachus* and *Heteropneustes fossilis* artificially infected with *Flavobacterium columnare* and *Myxobacterium*.	Biochem. Cell. Arch. 6 (2): 329 – 338.	Verma, V, and Singh, R
3	2007	Characteristics of *Flavobacterium* and *Myxobacterium* isolated from the freshwater catfish	Biochem. Cell. Arch. 6(2): 9 – 21.	Verma, V and Singh, B R
4	2007	Serological and Epidemiological characterization of *Flavobacterium columnare* isolates isolated from infected catfish of sub-Himalayan region.	Biochem. Cell. Arch. 6(2): 45 – 55	Verma, V and Singh, B R

5	2007	Changes in haematological parameters of Indian catfish (*Heteropneustes fossilis*) subjected to artificial infection with *Flavobacterium columnare* and *Myxobacterium*	J. Aqua. Biol. 22 (1): 1- 6	Verma, V
6	2007	Level of Cd. And Pb in tissue of freshwater fish (*Clarias batrachus*) and chicken in Western U. P. India	Bulletin Environ. Cont. Toxicol. 79: 396 – 400 **I.Factor: 1.02**	Kumar, P, Patra, A K and Swarup, D
7	2007	*In vitro* lymphoproliferative responses of peripheral blood mononuclear cells of $CdCl_2$ exposed Indian catfish (*Clarias batrachus*) treated with different anti oxidents.	IndianJ. omp. Microbial. Infect.Dis.27(1 & 2): 22 -26	Kumar, P Dhama, K and Nandi, D
8	2007	*In vitro* phagocytosis response of neutrophils of catfish (*Clarias batrachus* and *Heteropneustes fossilis*) subjected to *Flavobacterium columnare* and *Myxobacterium*.	Indian J.Comp. Microbial. Infect. Dis. 7(1 & 2): 27 -31\	Verma, V
9	2008	Detection of *Flavobacterium columnare* in experimentally infected *Clarias batrachus* by using immunofluorescence technique.	J. Exp. Zool. India 11(1): 19 – 24.	Verma, V
10	2008	Accumulation pattern of Cadmium in tissues of Indian catfish, *Clarias batrachus*.	Anim. Nut. Feed Tech. 8 (2): 115 – 119. **I.Factor: 0.32**	Kumar,P, anjan, R.,Swarup,D, Pattanaik, A K, Patra A K
11	2009	Prevalence, surveillance and virulence characterization of *Flavobacterium columnare and F. psychrophilum* in Indian catfish of sub Himalayan region	Biochem. Cell. Archiv. 9 (1): 71-82	-
12	2009	Ascorbic acid, garlic extract and taulene alleviate cadmium induced oxidative stress in freshwater catfish (*Clarias batrachus*).	Sci. Total Environ. 407: 5024 – 5030. **I.Factor: 3.50**	Kumar, Patra, A. K.,Ranjan,R.,Patra, R. C., Swarup, D. and Satya Pal.
13	2009	PCR – RFLP analysis of IL-2Rγ and IL-15Rα genes in Kadkanath native chicken	J. Appl. Ani. Res. 36:239 – 242. **I.Factor: 0.40**	Jaiswal, G. Kumar, S and Singh, D P
14	2010	Isolation and efficacy characterizations of lytic bacteriophages against antibiotic resistant *Pseudomonas fluorescens* from Sub Himalaya region	Biochem. Cell. Archiv. 10 (1): 21-29.	Kumar, D. Disha. D. Sharma, A.K.

15	2010	Genetics of immunecompetence traits in white leghorn chickens divergently selected for humoral response to sheep erythrocytes.	Ind. J Poult. Sci. 45 (1): 18-21	Gupta,T. Kumar, S. Kataria, M.C
16	2010	Isolation and efficacy evaluation of virulent bacteriophages specific to fish pathogenic bacterium, *Flavobacterium columnare*	J. Appl. Ani. Res. 38: 169-172. **I.Factor: 0.40**	Arpana & Kumar, D.
17	2010	Genetics distance between divergent white leghorn chicken lines after three generation of selection for humoral response to sheep erythrocytes.	J. Appl. Ani. Res. 38: 269-273. **I. Factor: 0.40**	Gupta,T. Kumar, S. Kataria, M.C.
18	2011	Efficacy of polyvalent bacteriophages P-27/HP to control multidrug resistant Staphylococcus aureus associated with human infections.	Curr. Microbiol. 62: 255- 260 **I.Factor: 1.80**	Gupta, R
19	2011	Lytic bacteriophages specific to *Flavobacterium columnare* rescue catfish, *Clarias batrachus* (Linn.) from columnaris disease.	J. Environ. Biol. 32: 161-168 **I.Factor: 1.36**	Arpana, D. Kumar, A. K. Sharma
20	2011	Effect of pH and salinity on the virulence characteristics of *Flavobacterium columnare* and *Myxobacterium* sp. isolated from diseased fish.	J. Environ. Biol. 32: 573-577. **Impact Factor: 1.36**	Verma, V., and B. R. Singh
21	2011	P-27/HP Endolysin as Antibacterial Agent for Antibiotic Resistant *Staphylococcus aureus* of Human Infections.	Curr. Microbol**.** 63: 39-45. **I Factor: 1.80**	Gupta, R.
22	2012	Influence of methonine and protein supplementation in corn-soya and wheat soya based diet on lying hens performance, egg size and egg quality in early stage of egg production.	**I.J. Poul. Sci.** 47 (1):54-59.	Kumar, S., Tyagi, P.K. Mandal A. B. Tyagi, P.K. and Deo, C.
23	2012	Effect of dietary addition of pharmacological drugs on the production performance and plasma lipid profile and egg cholesterol content of laying hens	**I.J. Poul. Sci.** 47(2):158-163. **I Factor: 0.4**	Kumar Shiv, et al.
24	2012 1	Columnaris disease and its drug resistance in cultured exotic African catfish, *Clarias garipinus* in India	**Biochem. Cell. Archiv.** 12 (2):415 – 420.	Kumar D., Singh A. K. & Ansari, A

25	2013	Immunocompetence traits and their inheritance pattern in kadaknath native chicken.	**IndianJ.Anim. Res**. 48 (5): 509-512, **Im.Fact 0.12**	Jaiswal, G. Kumar, S.
26	2014	Isolation and Immunohistochemical identification of *Flavobacterium psychrophilum* from the tissue of challenged fish, *Clarias batrachus* (Linn).	J. Environ. Biol.(in press) **Impact Fact: 0.86**	Verma, V.
27	2015	Prevalence of multidrug resistant altered Vibrio cholerae 01isolates among diarrhoeal patients in Delhi during 2008-2012.	Indian J.Appl. Res. 5(4): 624-628. **Impact factor 3.62**	Singh, P. Kumar, D. Ramamurthi, T. Sarkar, B.L. and Shasrma, D.C

Gene Bank Submission:

1. GU557143**:** "Mitochondrial D-Loop sequence determination of Indian native chicken breed: Aseel": A. Gupta, S. K. Mishra, **Y. Prasad**, G. Arora, S. O. Pratap, D. P. Singh.
2. GU557144: "Mitochondrial D-Loop sequence variant for Indian native chicken: Aseel Peela": A. Gupta, S.K. Mishra, **Y. Prasad**, G. Arora, S. O. Pratap, D. P. Singh and R. Narayan.
3. GU561992: "Mitochondrial D-Loop sequence polymorphism for a long-term selected White Leghorn strain": S. O. Pratap, S.K. Mishra, **Y. Prasad**, G. Arora**,** A. Gupta and M. C. Kataria.
4. GU561993: "D-Loop sequence variant for Mitochondrial genome in a WLH chicken Breed": S. O. Pratap, S. K. Mishra, **Y. Prasad**, G. Arora**,** A. Gupta and D. Sharma.
5. GU561994: "A frequent Mitochondrial D-Loop sequence haplotype in White Leghorn Strain": S. O. Pratap, S.K. Mishra, **Y. Prasad**, G. Arora**,** A. Gupta and R. S. Bais.

Ph. D. Theses Produced – TEN

1 Studies on the immune responses of freshwater Indian catfish (*Clarias batrachus* and *Heteropneustues fossilis*) in relation to cytophagan bacterial fish pathogens.
Vinay Verma, 2005

2 Immunomodulatory effect of Levamisole Vitamin –E and Chitin on the non specific immune response of Indian Major Carp against *Flavobacterium.*
Preeti Saxena, 2009

3 Immunotoxic and pro-oxidative effect of Cd and its amelioration with selected antioxidants on freshwater catfish, Puneet Kumar, 2009

4 Clinico-immunomodulatory effect of Levamisole Vitamin – E and Selenium on the non specific immune response of Indian catfishes against Pseudomonads.
A.K. Sharma, 2010

5 Isolation, Efficacy characterization and Kinetics of Bacteriophages against the fish pathogenic bacterium, *Flavobacterium columnare*, for the development of Phage Therapy in aquaculture. Arpana, 2011

6 Molecular genetics and immunological evaluation of divergent white Leghorn chicken lines based on humoral response to sheep erythrocytes. Taran Gupta, 2011

7 Dietary manipulation of external and internal egg quality of laying hens,
Shiv Kumar, 2011

8 Purification characterization and use of phage induced endolysin as therapeutic agent against *Staphylococcus aureus* of human origin, Ragini Gupta, 2012

9 Host range sensitivity of bacteriophages specific to virulent bacterial pathogen associated with columnaris disease of fish to develop phage therapy in aquaculture, Dinesh Kumar, 2012

10 Candidate gene analysis of interlukin gene in kadaknath native chicken,
Gauri Jiswal, 2013

Ph. D. Students Registered (2010 onwards) -Four

11 Isolation, efficacy and molecular characterization of polyvalent phages specific to fish pathogens associated with BHS. Nisha Dinker

12 Genomics of Kadakanath and white Leghorn Chickens with respect to Fibromelonosis. Shiv Om

13 Molecular epidemiology of *Vibrio cholerae* 01 isolated from human origin. Puneeta Singh

14 Genomic and kinetic evaluation of biologically filtered virulent *Pseudomonas fluorescens* bacteriophages for the standardization of phage therapy in aquaculture.
A. Kumari.

Conference Presentation

International – Fifteen

National - Twenty

Total publication profile

(i). Book -

(ii). Indexed / Peer reviewed Journals Thirty: RG Factor =12.52

(iii) Conference presentation Thirty five: h factor = 7

University Service / consulting activity

Assistant Coordinator, Central Evaluation - Since 1996;

Assistant Superintendent, Entrance Test;

Assistant Superintendent, M. Sc. Entrance Test;

Assistant Proctor

Professional Societies Membership

i. Life member of Indian Science Congress, India
ii. Member of New York Academy of Science.
iii. Life member of society for Bio-naturalists.
iv. Life member of Society for Environment of India.
v. Member of Society of Environmental Sciences, India
vi. Member of Society for Sciences, India

Projects completed

(i) Principal Investigator, ICAR Project "Pathological and serological characteristics of certain bacterial fish pathogens in relation to selected catfishes of Himalayan and sub Himalayan regions.**"** (1998 – 2001)

Cost: Rs. 14.00 lakhs

(ii) Co-Principal Investigator, ICAR Project Investigations on the aetiological agents of EUS and the immune response shown against them by symptomatic fish species."(2001-2004) **Cost: Rs. 12.00 lakhs**

(iii) Principal Investigator, DBT Project "Isolation, characterization and efficacy of Bacteriophages against pathogenic *Pseudomonas* and *Flavobacterium* associate with bacterial fish diseases, for therapeutic uses in aquaculture."

(2005-2008) **Cost of Rs 24.25 lakhs**

Seminars and Symposia attended (2007 onwards)

A. International Symposia

1 **Yogendra Prasad,** A.K.Sharma, D. Kumar & M. Rawat (2007) Bacteriophages: A novel candidate of therapeutic value in Aquaculture. India Science Congress held at Chdambaram, Anamalai nagar University, AN (TN), 3rd to 7thJan .2007

2 Preeti Saxena, **Yogendra Prasad** and Arvind Kumar Sharma (2007) Immunomodulatory effect of vit. E on the innate immune response of *Labeo rohita* immimmunized with *Flavobacterium columnare.* Do.

3 Arvind Kumar Sharma, Preeti Saxena and **Yogendra Prasad** (2007) Clinico-immunomodulatory effect of levamisole on the cellular innate immune response of *Heteropneustes fossilis* Do.

4 Gupta, A., Mishra, S. K., **Prasad,** Y., Arora, G., Pratap, S. O., Singh, D.P., Kataria, M.C. (2010). Mitochondrial DNA analysis of Indian native breed: Aseel proves its evolution from Red Jungle fowl ahead of modern commercial chickens in *in XIII th European Poultry Conference, August 2010 , Tours, France.*

5 S.O. Pratap , S.K. Mishra , G. Arora, **Y. Prasad** , D. Sharma, R.K.S. Bais, A.K. Mishra, M.C. Kataria. 2010 "Analysis of Genetic Diversity from Mitochondrial and Nuclear Genome-Sequences in a Long-Term Selected White Leghorn Chicken Population" in XIII th European Poultry Conference, August, Tours, France.

6 S. O. Pratap, S.K. Mishra, Y. Prasad, G. Arora, D. P. Singh, M. C. Kataria and Ram Gopal (2010) Estimation of genetic diversity between native-chicken breed: kadaknath *vis-à-vis* a long-term selected white leghorn using microsatellite markers. International conference on the physiological capacity building in livestock under changes climate scenario, 11-13 Nov., IVRI, Izatnagar.

7 Pratap, S. O., Mishra, S. K., **Prasad, Y.,** Khan, A. A., Arora, G., Gaur, R. and Singh, D. P. (2011). A differential study of egg quality parameters for indigenous breed Kadakanath over White leghorn chicken, Asian Pacific Poultry Conference (APPC), **Taiwan,** March 20-23.

8 Pratap, S. O., Mishra, S. K., **Prasad, Y.,** Arora, G., Khan, A. A., Gaur, R. Sharma, D. and Mishra, A.K. and Kataria, M. C. (2011). Evidence of molecular differentiation between high and low performance sub populations for egg production in a long term selected White leghorn strain, Asian Pacific Poultry Conference (APPC), **Taiwan,** March 20-23.

National Symposia

1 Jaiswal, G. Kumar, S. **Prasad, Y.**., Singh, D. P. and S Choudhery (2008): Immunocompetence profile of Karakanath breed of native chicken 9th Annual Conference of ISAGB and Nat. Symp.on Live Stock Genomics in Prod. Enhancement for food security, 3 – 4 Jul. 2008; NASC complex Pusa, New Delhi

2 Jaiswal, G. Kumar, S. Prasad, Y.., Singh, D. P. Alyethodi, R.R. and S Choudhery (2008): PCR – RFLP analysis of IL-2Rγ gene in Kadkanath breed of native chicken Silver Jublier Ann.Conf.& Nat. Symp.on Poultry Production in India threats and opportunities; 10 – 12Dec. 2008, Coll. Vet. Science and AH , AAU, Anand Gujrat.

3 Prasad, Yogendra (2009) Phage therapy in aquaculture **(invited lecture)** in National Seminar on thrust areas in fish biotechnology and fish conservation;18 Sep. 2009. Dept. of Zool. Meerut College, Meerut.

4 Nisha, D. Kumari, Amita Kumar D, Seth, A.K. and Prasad, Y. (2009) Isolation and characterization of bacteriophages from Sub Himalayan region specific to a pathogenic bacteria, *Pseudomonas fluorescens;* National Seminar on thrust areas in fish biotechnology and fish conservation ;18 Sep. 2009. Dept. of Zool. Meerut College, Meerut.

B. Best Paper presentation Award

5. S. O. Pratap, S. K. Mishra, **Y. Prasad,** A. A. Khan, G. Arora, B. J. Khan, S. P. Singh and D. P. Singh, **2010** "Significant Genotype-Effects on Immune-Competence Estimated in Indigenous Chickens: Kadaknath *vis a vis* White Leghorn Chickens" presented at National Symposium on "*Conventional and Modern Breeding Technologies for Genetic Improvement of Livestock and Poultry in India*" on 22nd and 23rd October**,** in the Department of Genetics and Animal Breeding, College of Veterinary and Animal Sciences, G. B. Pant University of Agriculture & Technology, Pantnagar.

5 Pratap, S.O., Mishra, S., Arora,G., **Prasad, Y**., Singh, D. P. and Kataria, M.C. (2009) "Molecular Assessment of Inter-Breed Genetic Variability between Kadaknath and White Leghorn Chickens*" in* XXVI Annual Conference & National Symposium of Indian Poultry Science Association (IPSACON)-2009,^{22nd} to^{24th} October organized by Department of Poultry Science, Bombay Veterinary College Maharashtra Animal& Fishery Science University Mumbai India.

6 Pratap, S.O., Mishra, S. K., **Prasad, Y**., G. Arora, Khan, A. A., Sharma, D., Mishra A. K. and Kataria, M.C. (2010). "Evidence of Molecular Differentiation Between High and Low- Performance Sub-Populations for Egg Production in a Long-Term Selected White Leghorn Strain" for 'Avitech Award' in IPSACON-2010 on 16-18th Sep. 2010 organizing by MVC, Chennai.

7 S. O. Pratap, S.K. Mishra, **Y. Prasad**, G. Arora, D. P. Singh, M. C. Kataria and Ram Gopal 2010 Estimation of genetic diversity between native-chicken breed: Kadaknath *vis-à-vis* a long-term selected white leghorn using microsatellite markers' by in "XIX Annual Conf. & Int. Conf. on Physiological Capacity Building in Live Stock under changing Scenario" Organizing by SAPI at Division of Physiology and Climatology, Indian Veterinary Research Institute, Izatnagar Bareilly.

Dr. Yogendra Prasad

Professor

Department of Animal Science